

REMARKS

Claims 1, 5 - 12, 40, 50, and 60 - 70 are pending. Claims 2 – 4 have been cancelled. Claims 1, 40 and 50 have amended. Claims 60 – 70 have been added. No new matter has been added. Reexamination and reconsideration of the application are respectfully requested.

The Examiner rejected claims 1 – 12, 40 and 50 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,536,902 to Serra ("the Serra reference"). This rejection is respectfully traversed.

The Examiner states that the Serra reference discloses an input device (120), an extracting device 20, a synthesizing device 11 that synthesizes new attribute data based on both the original attribute data and the target attribute data being characteristic of the target voice signal composed of a target sinusoidal component and a target residual component, and an output device 11 that operates based on the new attribute data and either of the original residual component and the target residual component for producing the output signal. (*Office Action, pages 2 – 3*). The applicant has amended the claims to further clarify the invention.

The Serra reference does not disclose an apparatus for converting an input voice signal into an output voice signal according to a target voice signal, including an extracting device that extracts original attribute data from at least the sinusoidal component of the input voice signal, the original attribute data being characteristic of the input voice signal and **containing amplitude data representing an amplitude of the input voice signal in the form of static amplitude representing a basic variation of the amplitude and vibrato-like amplitude data representing a minute**

**variation of the amplitude, superposed on the basic variation of the amplitude, pitch data representing a pitch of the input voice signal, and spectral shape data representing a spectral shape of the input voice signal.** The Examiner states that the Serra reference discloses the highlighted limitation in col. 8, line 39 – col. 19, line 20 (eleven patent columns), columns 24, line 33 – col. 26, line 49, col. 31, line 29 – col. 36, line 53 (six patent columns). The applicant has reviewed the Serra reference and does not see where the highlighted limitations are disclosed and requests that the Examiner specifically identify where the highlighted limitations are disclosed. In other words, the applicant is requesting that the Examiner identify (by reference number and column and line number) where the Serra reference discloses 1) **amplitude data representing an amplitude of the input voice signal in the form of static amplitude representing a basic variation of the amplitude and vibrato-like amplitude data representing a minute variation of the amplitude, superposed on the basic variation of the amplitude;** 2) pitch data representing a pitch of the input voice signal; and 3) **spectral shape data representing a spectral shape of the input voice signal** as well as the highlighted portion of the synthesizing limitation of claim 1. The Serra reference appears to be directed to the extraction of SMS data, the modification of SMS data according to user controls and then the utilization of the modified SMS data to synthesize a sound in the SMS synthesizer. (*Serra, column 39, lines 10 – 24*). Since the Serra reference does not disclose the highlighted limitation, claim 1, as amended, distinguishes over the Serra reference.

Further, the Serra reference does not disclose an apparatus for converting an input voice signal into an output voice signal according to a target voice signal, the

apparatus including a synthesizing device that synthesizes new attribute data based on both of the original attribute data and target attribute data being characteristic of the target voice signal composed of a target sinusoidal component and a target residual component other than the sinusoidal component, **the target attribute data being derived from at least the target sinusoidal component, and containing amplitude data representing an amplitude of the target voice signal in the form of static amplitude data representing a basic variation of the amplitude and vibrato-like amplitude data representing a minute variation of the amplitude, superposed on the basic variation of the amplitude, pitch data representing a pitch of the target voice signal, and spectral shape data representing a spectral shape of the target voice signal.** The Serra reference does not disclose that any target attribute data derived and containing data representing 1) **an amplitude of target voice signal in the form of static amplitude data representing a basic variation of the amplitude and vibrato-like amplitude data representing a minute variation of the amplitude data, superposed on the basic variation of the amplitude;** 2) pitch data representing a pitch of the target voice signal and 3) spectral shape data representing a spectral shape of the target voice signal. Accordingly, applicants respectfully submit that claim 1, as amended, further discloses over the Serra reference.

Claims 5 – 12 depend, indirectly or directly, on claim 1, as amended. Accordingly, applicant respectfully submits that claims 5 – 12 distinguish over the Serra reference.

Independent claims 40 and 50, both as amended, recite limitations similar to independent claim 1, as amended. Accordingly, applicants respectfully submit that

claims 40 and 50 distinguish over the Serra reference for reasons similar to those discussed above in regard to independent claim 1.

Independent claim 60 recites:

An apparatus for converting an input voice signal into an output voice signal according to a target voice signal, the apparatus comprising:

an input device that provides the input voice signal composed of an original sinusoidal component and an original residual component other than the original sinusoidal component;

an extracting device that extracts original attribute data from at least the sinusoidal component of the input voice signal, the original attribute data being characteristic of the input voice signal and **containing amplitude data representing an amplitude of the input voice signal, pitch data representing a pitch of the input voice signal in the form of static pitch data representing a basic variation of the pitch and vibrato-like pitch data representing a minute variation of the pitch, superimposed on the basic variation of the pitch, and spectral shape data representing a spectral shape of the input voice signal;**

a synthesizing device that synthesizes new attribute data based on both of the original attribute data derived from the input voice signal and target attribute data being characteristic of the target voice signal composed of a target sinusoidal component and a target residual component other than the sinusoidal component, the **target attribute data being derived from at least the target sinusoidal component, and containing amplitude data representing an amplitude of the target voice signal, pitch data representing a pitch of the target voice signal in the form of static pitch data representing a basic variation of the pitch and vibrato-like pitch data representing a minute variation of the pitch, superposed on the basic variation of the pitch, and spectral shape data representing a spectral shape of the target voice signal;** and

an output device that operates based on the new attribute data and either of the original residual component and the target residual component for producing the output voice signal.

The Serra reference also does not disclose the highlighted limitations of claim 60, i.e., that either the original attribute data (or the target attribute data) is derived from a sinusoidal component, which includes **amplitude data, pitch data representing a pitch of the voice signal in the form of static pitch data representing a basic variation of the pitch and vibrato-like pitch data representing a minute variation of the pitch, superposed on the basic variation of pitch, and spectral shape data representing a spectral shape of target voice signal.** Accordingly, applicant respectfully submits that claim 60 distinguishes over the Serra reference.

Claims 61 – 68 depend, indirectly or directly, on independent claim 60.

Accordingly, applicant respectfully submits that claims 61 – 68 distinguish over the Serra reference for the same reasons as those discussed above in regard to claim 60.

Independent claims 69 and 70 recite limitations similar to independent claim 60.

Accordingly, applicant respectfully submits that claims 69 and 70 distinguish over the Serra reference for reasons similar to those discussed above in regard to claim 60.

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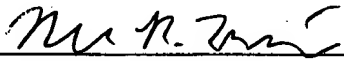
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Applicant believes that all of the claims are in condition for allowance, and a favorable action is respectfully requested. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call either of the undersigned attorneys at the Los Angeles telephone number (213) 488-7100 to discuss the steps necessary for placing the application in condition for allowance should the Examiner believe that such a telephone conference would advance prosecution of the application.

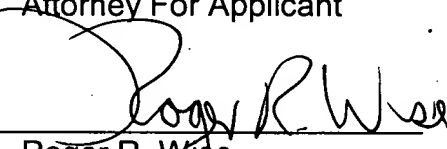
Respectfully submitted,

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